

## **2008 Bowhunter Observation Survey**

### **Iowa Department of Natural Resources**

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Dr. William R. Clark, Professor, Iowa State University

The Iowa Department of Natural Resources (DNR) conducted the annual Bowhunter Observation Survey during October 1 – December 5, 2008. This was the fifth year of the survey, which was designed jointly with William R. Clark, Professor at Iowa State University. The two primary objectives for this survey are to: 1) determine the value of bowhunter observation data as a supplement to other deer data collected by the DNR; and 2) develop a long-term database of selected furbearer data for monitoring and evaluating population trends. Bowhunters are a logical choice for observational-type surveys because the methods used while bowhunting deer are also ideal for viewing most wildlife species in their natural environment. In addition, bowhunters typically spend a large amount of time in bow stands: more than 40 hours/season is not uncommon. We believe avid bowhunters are the best hunters to select for participation in this survey because they not only hunt often, but they also have the most experience in selecting good stand locations, controlling or masking human scent, using camouflage, identifying animals correctly, and returning surveys.

Participants for the 2008 survey were selected from a list of bowhunters who had purchased a license for each of the 3 years prior to 2008 (i.e., avid bowhunters). Our goal was to select approximately 999 bowhunters in each of Iowa's 9 climate regions. Each climate region contains approximately 11 counties, and approximately 91 bowhunters were selected per county in an effort to evenly distribute observations in each region. Selection of participants consisted of a 3-step process. In each county, participants were first selected from a core group of avid bowhunters who had previously indicated an interest in participating in this survey. If fewer than 91 core group participants existed in a county, additional participants were randomly selected from a separate list of avid bowhunters who were not in the core group. Finally, if the number of "core group" and "randomly selected" participants in a county was less than 91, additional avid hunters were selected from other counties in the region to reach the regional goal of 999 participants. A total statewide sample of 8,991 bowhunters was selected for participation.

Responses were obtained from 2,140 bowhunters who recorded their observations during 31,891 hunting trips, yielding 108,040.5 hours of total observation time ( $3.39 \pm 0.02$  hours/trip; mean  $\pm$  95% CL). Bowhunters reported a median of 14 trips during the 66-day season. Regionally, the number of bow hunting trips (and hours hunted) ranged from 1,906 (6,154 hours) in northwest Iowa (Region 1) to 5,313 (18,090.5 hours) in northeast Iowa (Region 3). The raw survey response rate was 23.8%. The number of hunters who cooperated with the survey declined 14% in 2008 because bowhunters' interest was not pre-screened prior to the mailing of surveys.

Observations were standardized for each of the 12 species to reflect the number of observations per 1,000 hours hunted in each of the 9 regions. In addition, 95% confidence limits were calculated for each estimate. Precision among estimates for common species, such as deer, wild turkeys, and raccoons, was good: confidence limits were generally within  $\pm 15\%$  of the estimate. However, for less common species, such as badgers, bobcats, gray fox, and otters, the uncertainty associated with the estimate was quite large and occasionally exceeded the estimated value.

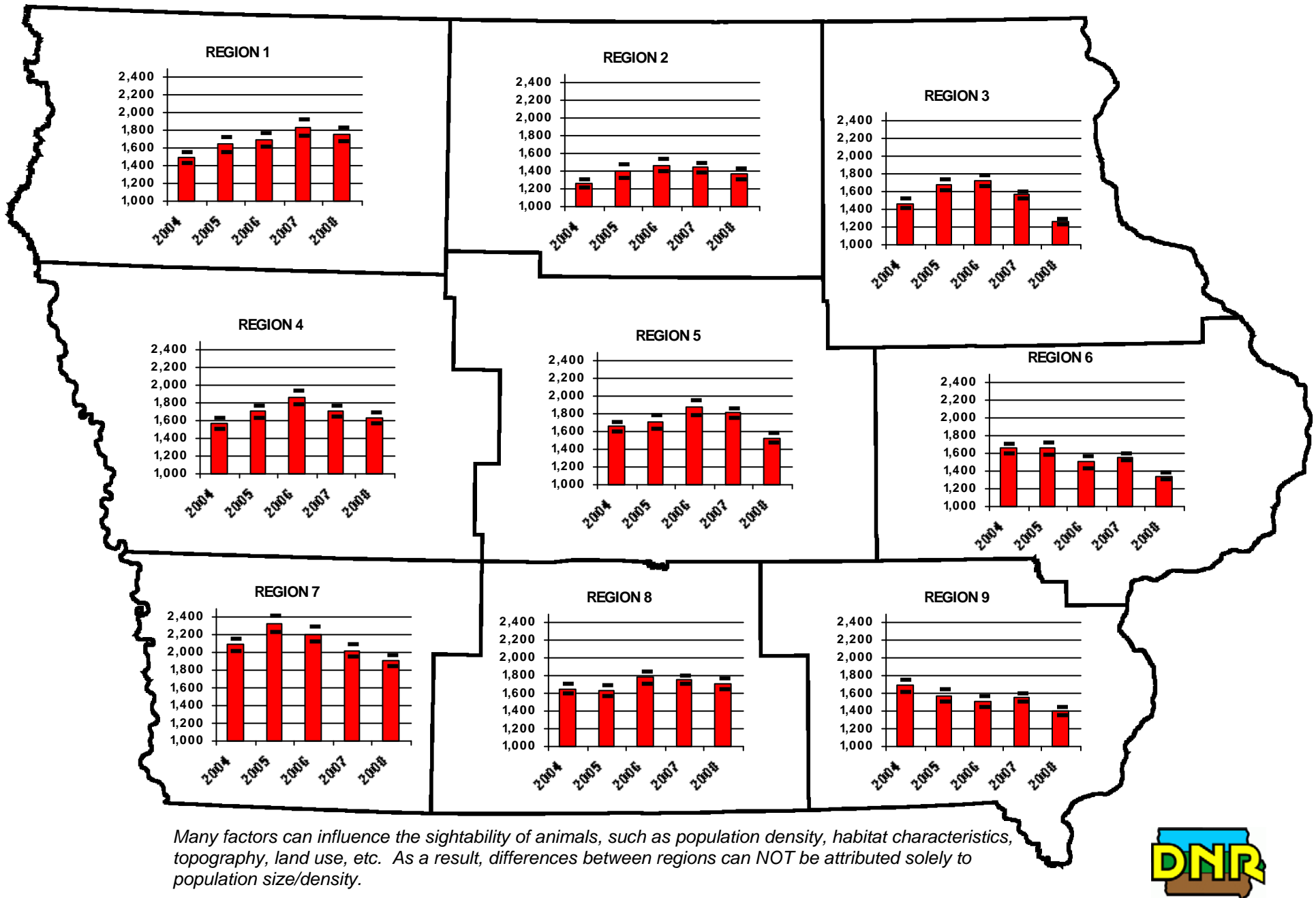
Results from 2008 indicated that the total number of deer observed/1,000 hours declined significantly in central Iowa (Region 5) and the eastern third of the state. Declines in total deer observations were also observed in the remaining regions, but these declines were not significantly lower than in 2007. The number of wild turkeys observed/1,000 hours declined significantly in northeast and east-central Iowa, which is likely the result of heavy rainfall and flooding during the nesting and brood-rearing period in 2007. Bobcat observations/1,000 hours remain stationary or slightly increasing in west-central Iowa and across the southern third of the state, and data suggest that the bobcat population is expanding into northwest, central, and east-central Iowa.

The DNR thanks all hunters who participated in the 2008 Bowhunter Observation Survey. Iowa's bowhunters are the best group of hunters to provide this observational information, and their participation in this survey will play a major role in the conservation of these wildlife species in the future. The volume of information they have provided could never be duplicated by the staff of biologists, technicians, and conservation officers of the Iowa DNR.

***When looking at the following charts, we caution against making comparisons between regional estimates for any species. Any differences in observation rates between regions could be related to differences in many factors such as population size, habitat, topography, land use, or any other factor affecting the sightability of animals. For each of the selected species, any differences between regions are NOT entirely related to regional differences in population size.***

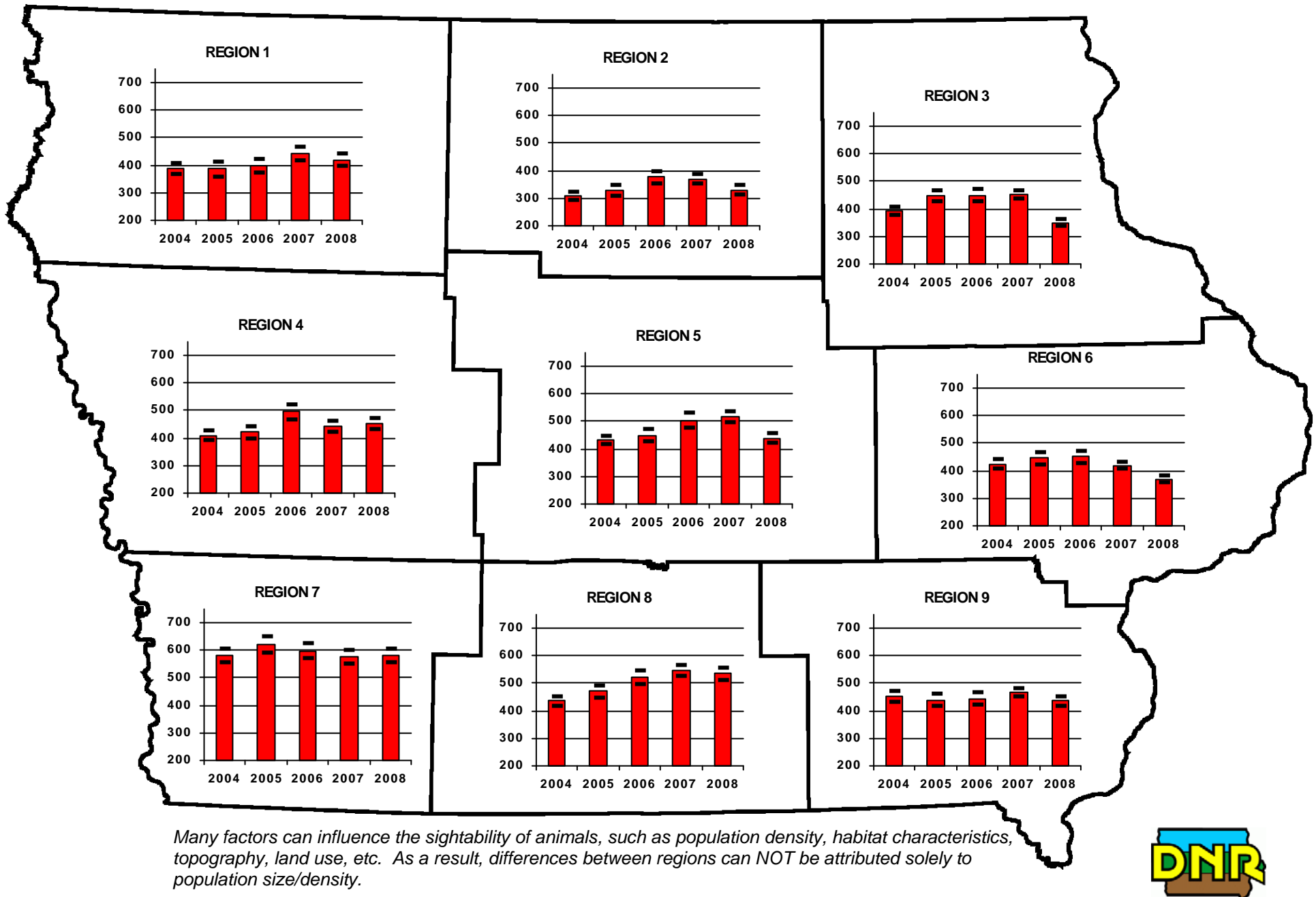
# Total Deer Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



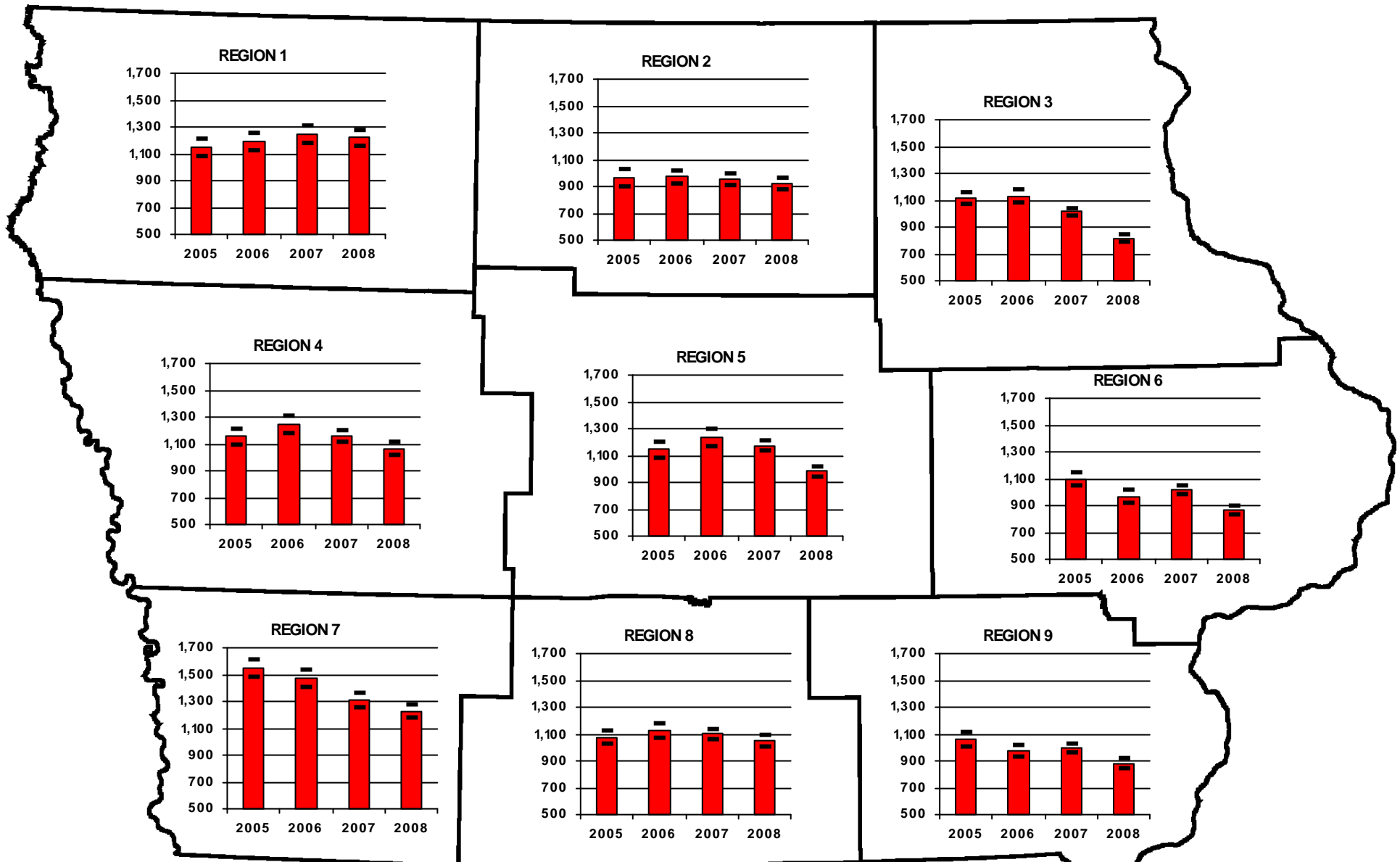
# Antlered Deer Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Antlerless Deer Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

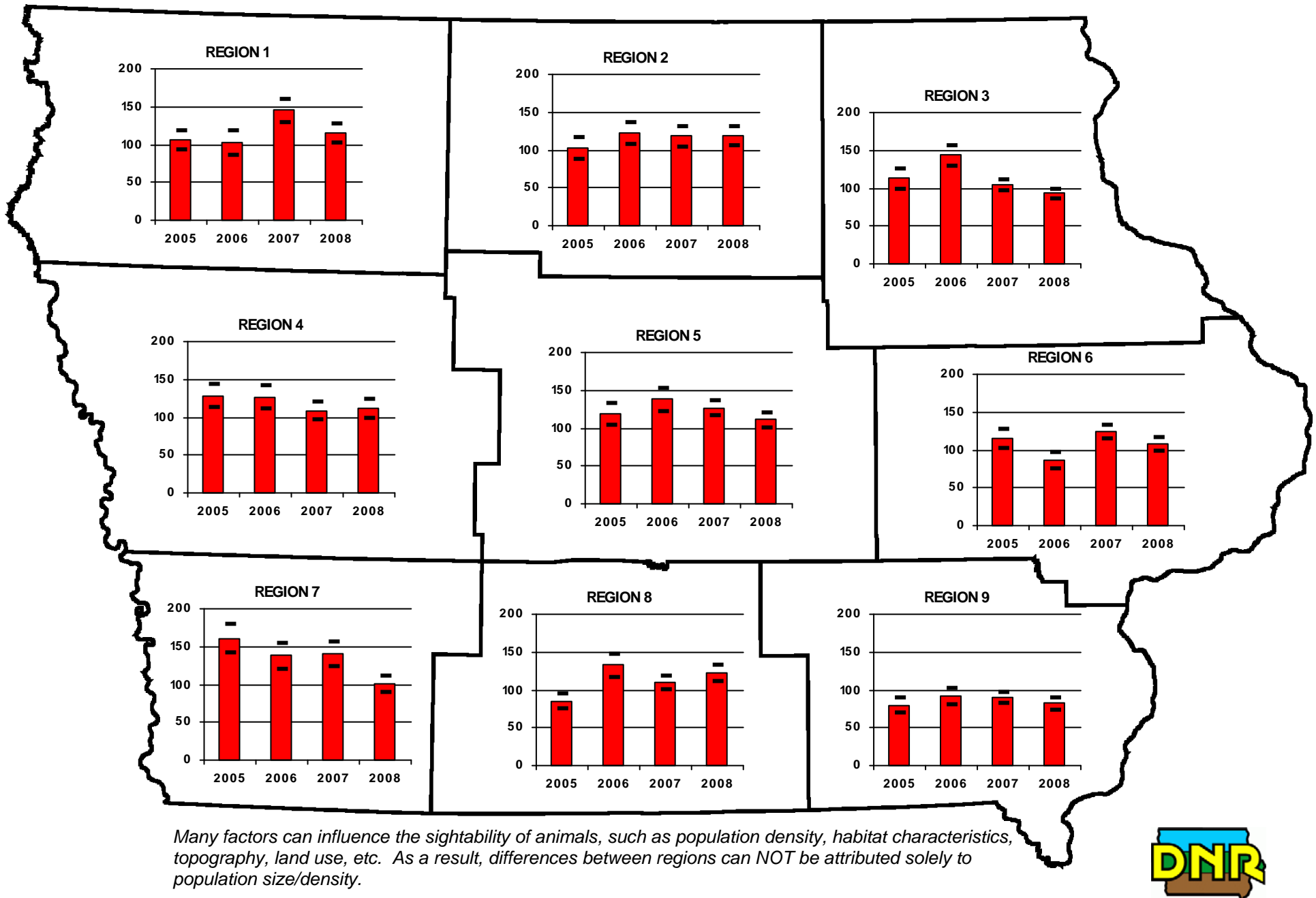


Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions can NOT be attributed solely to population size/density.



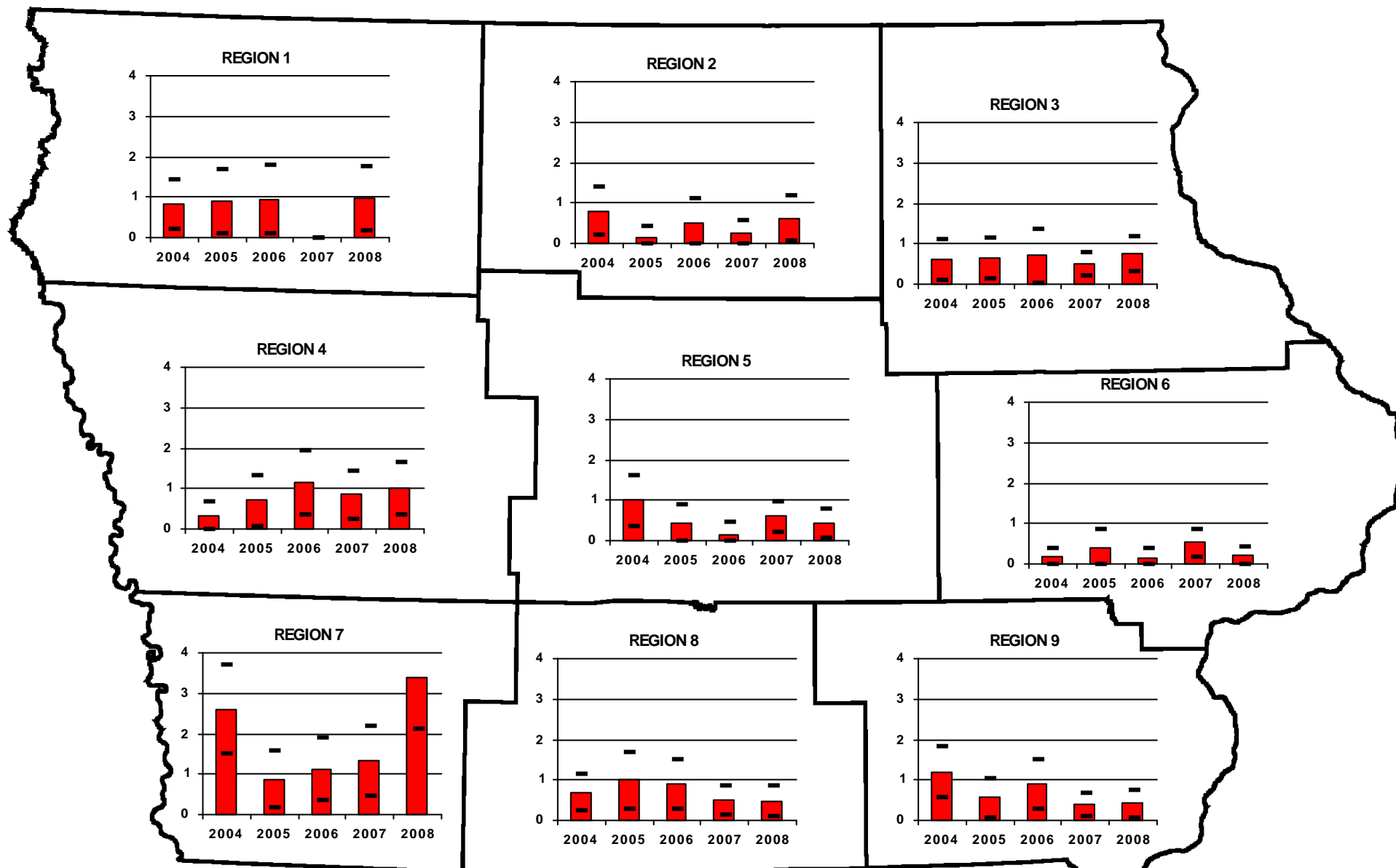
# Unknown Deer Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Badger Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

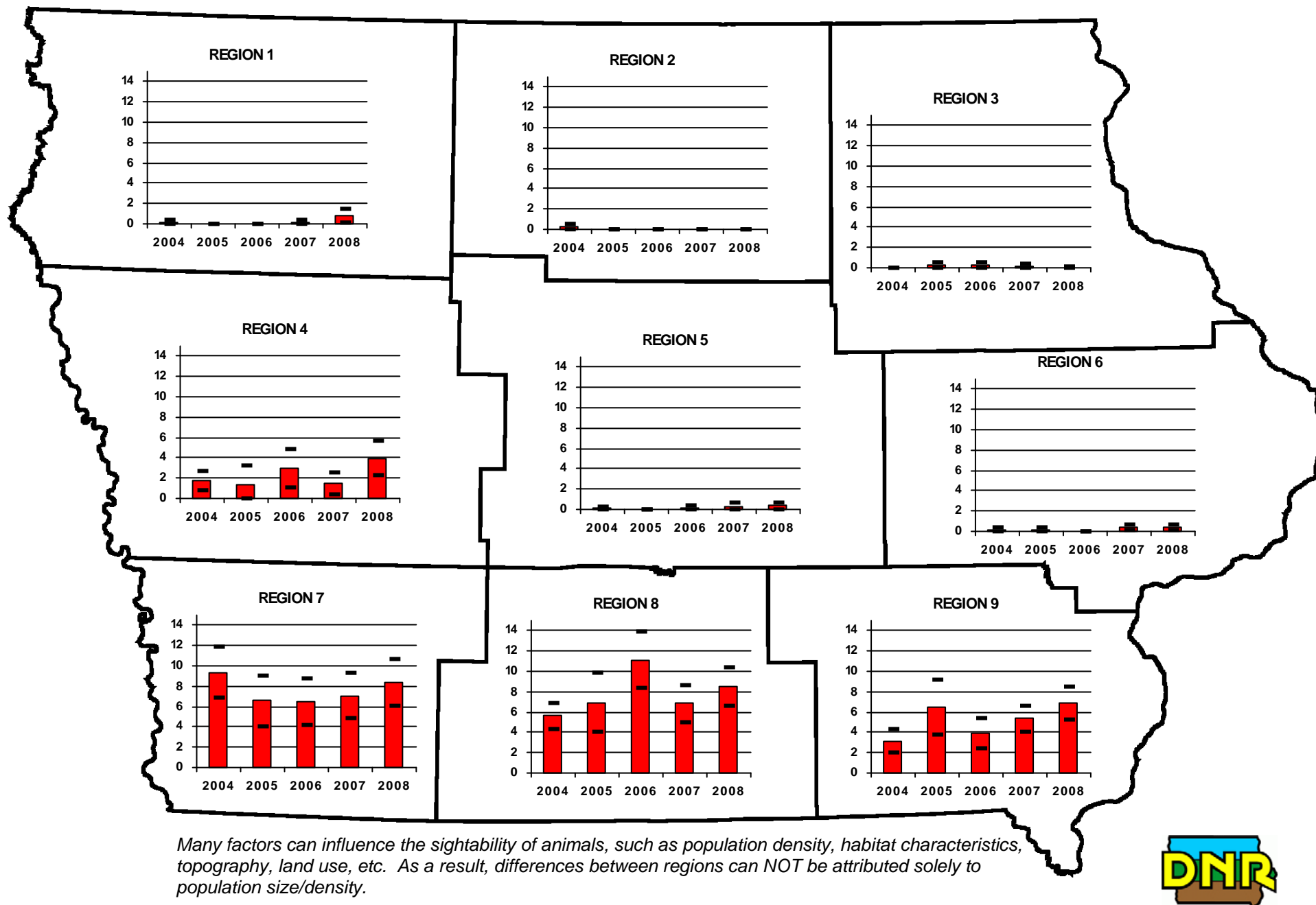


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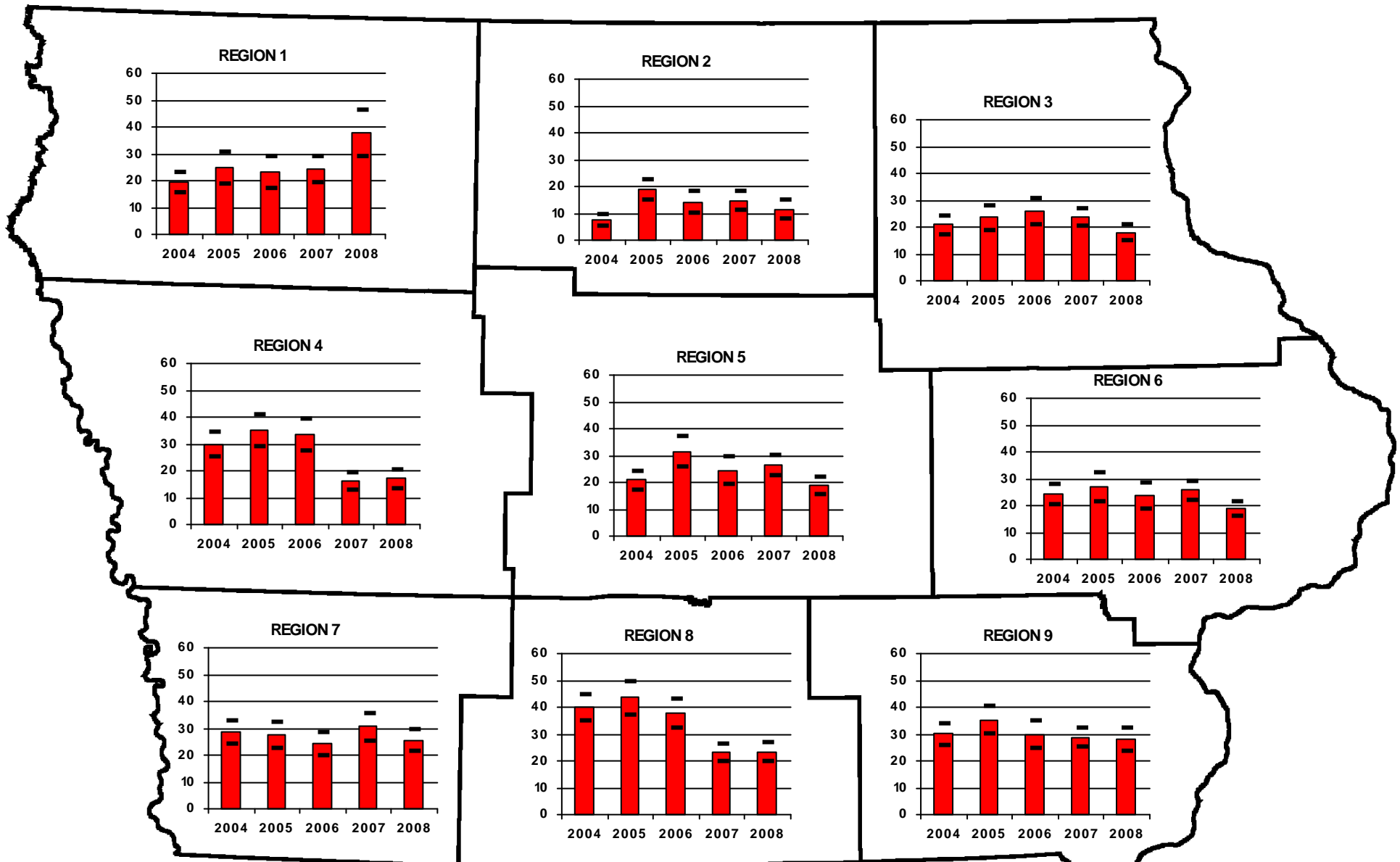
# Bobcat Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Coyote Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



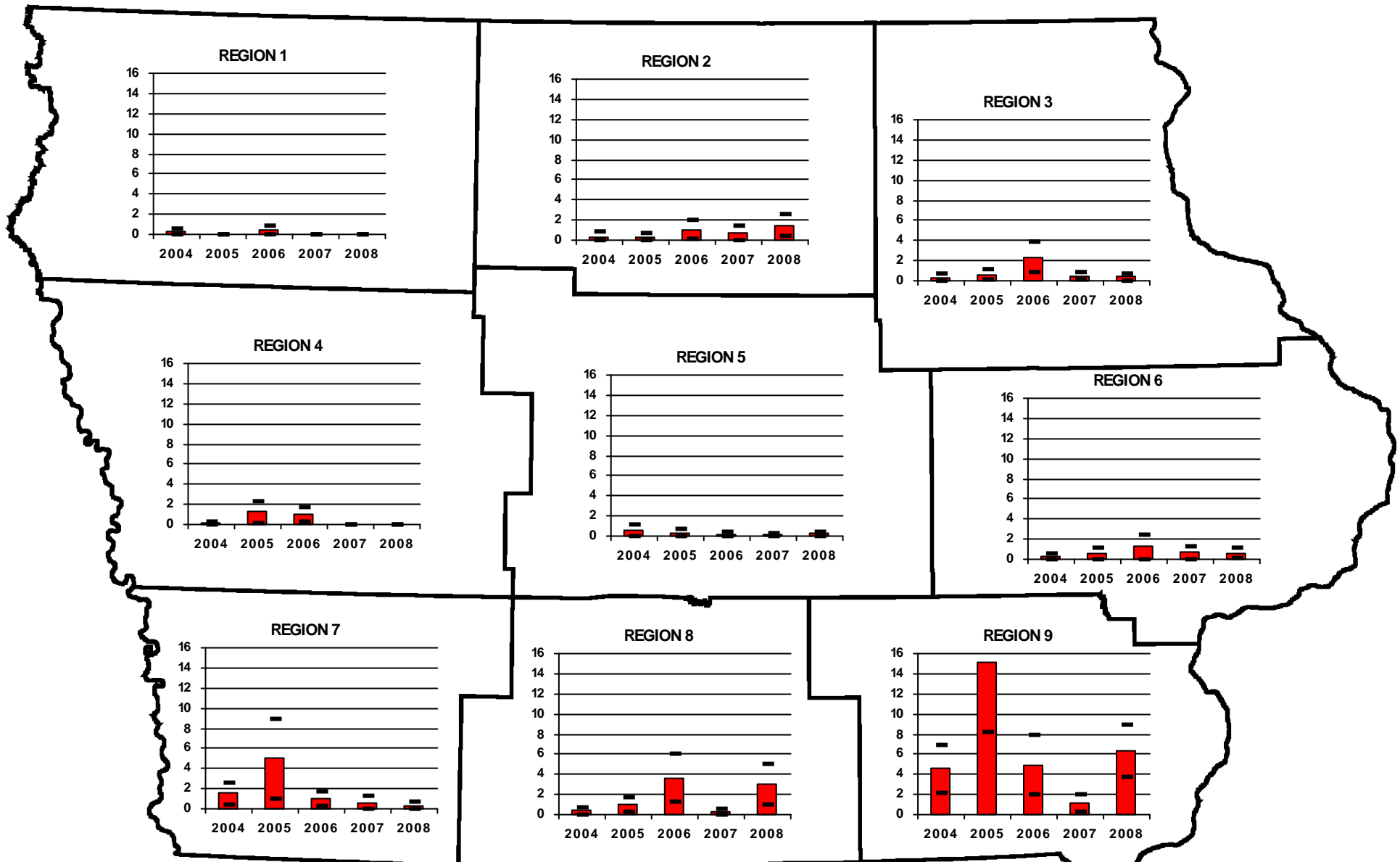
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# Gray Fox Observations Per 1,000 Hours Hunted

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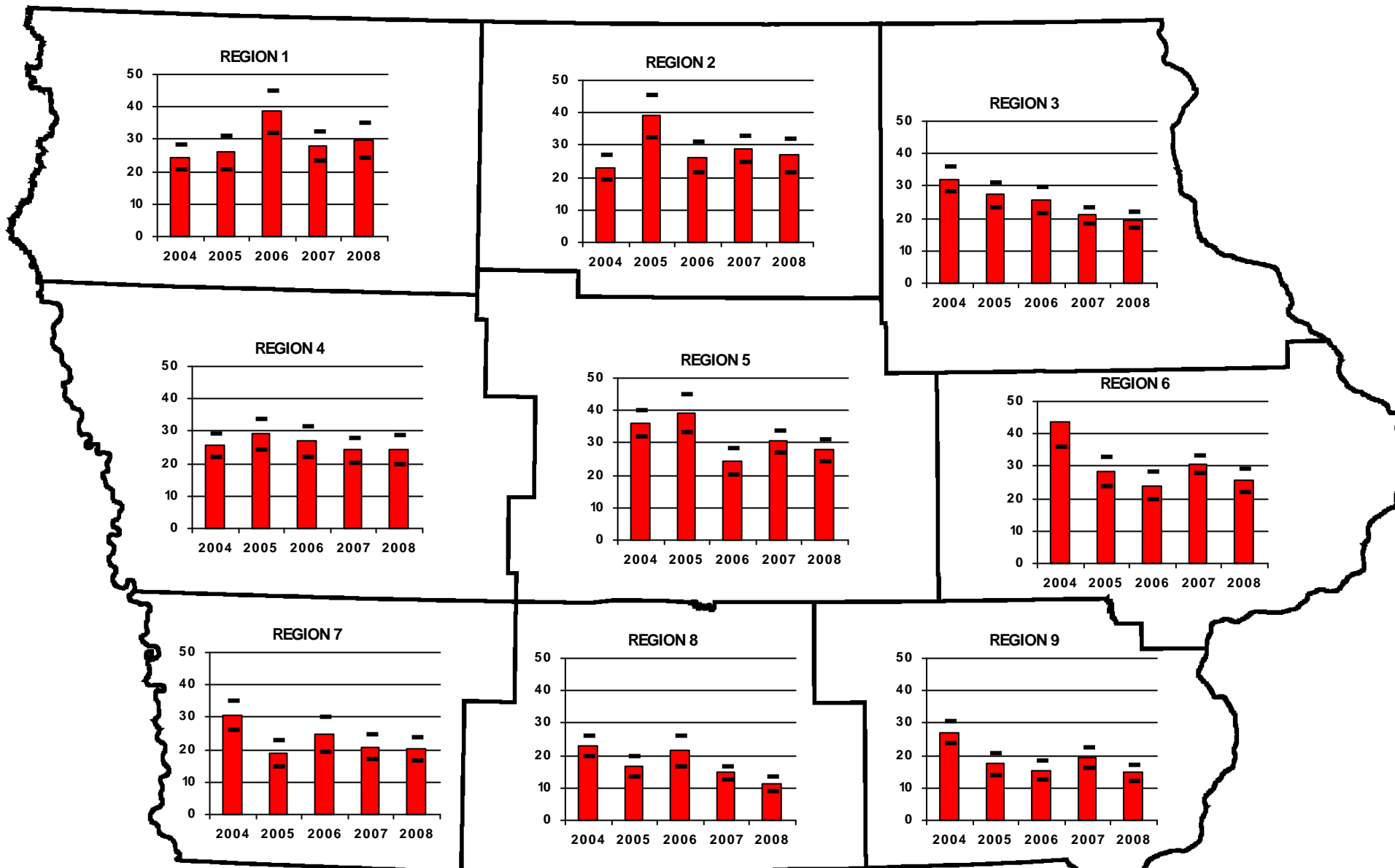


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# House Cat Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

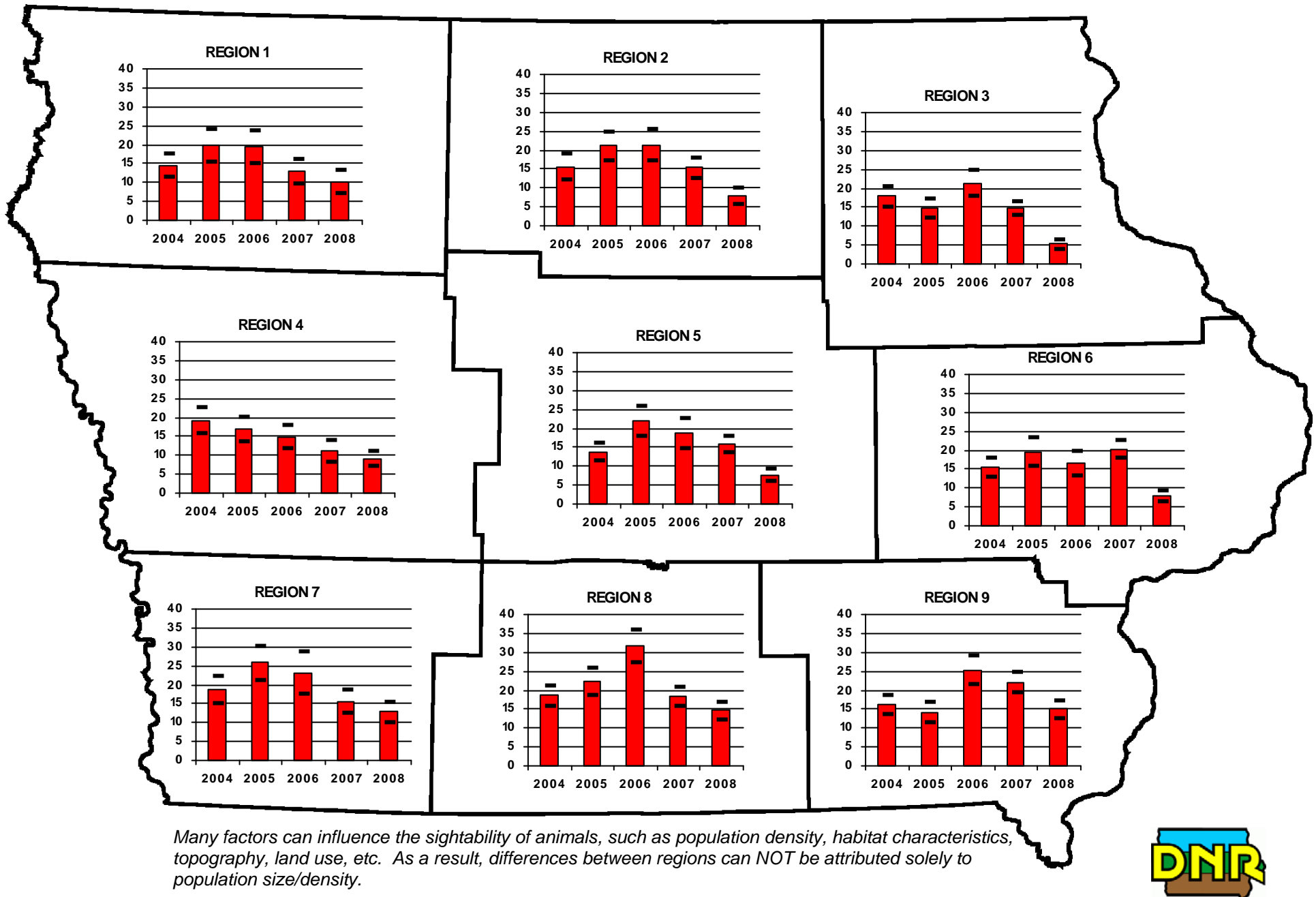


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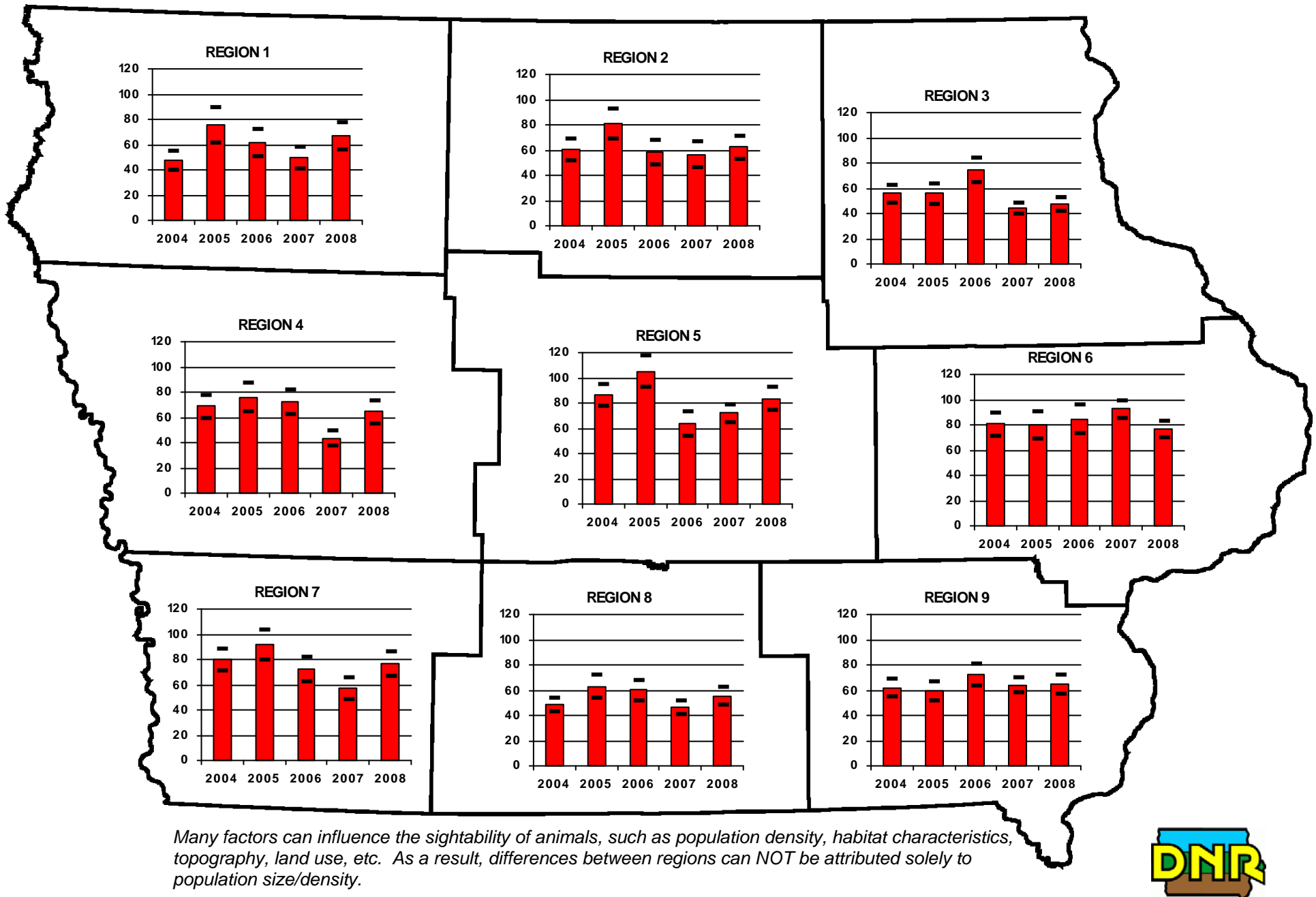
# Opossum Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



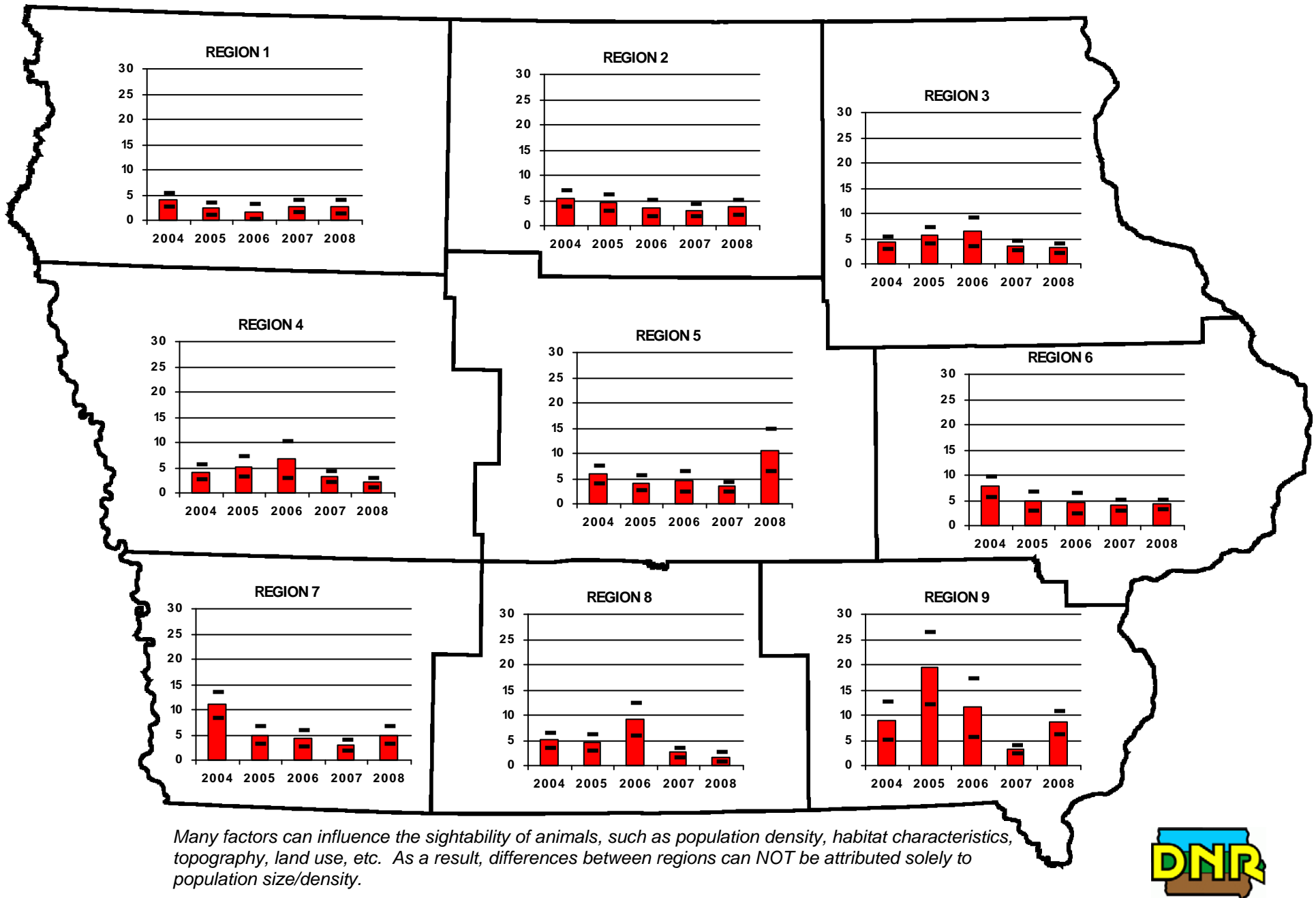
# Raccoon Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



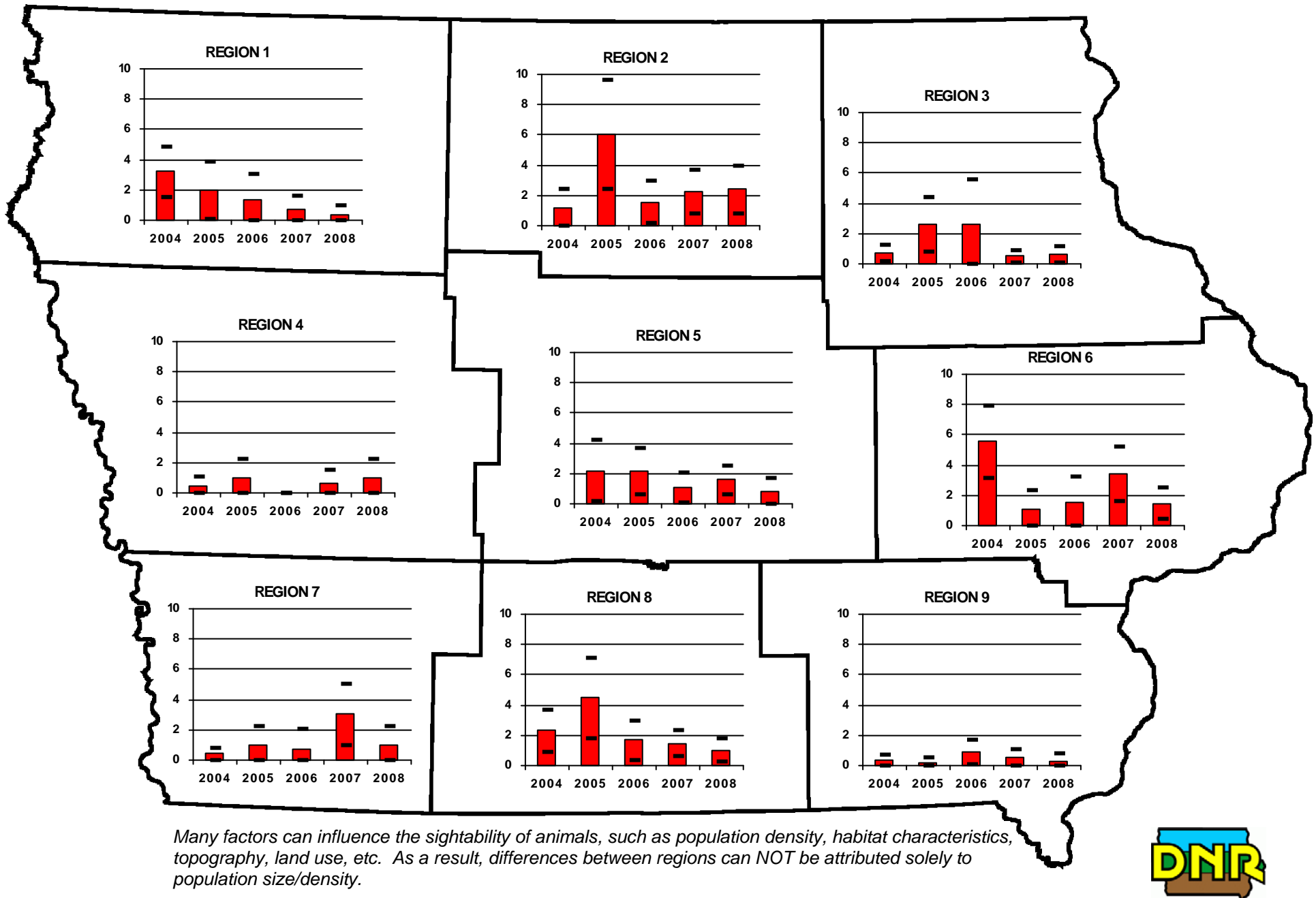
# Red Fox Observations Per 1,000 Hours Hunted

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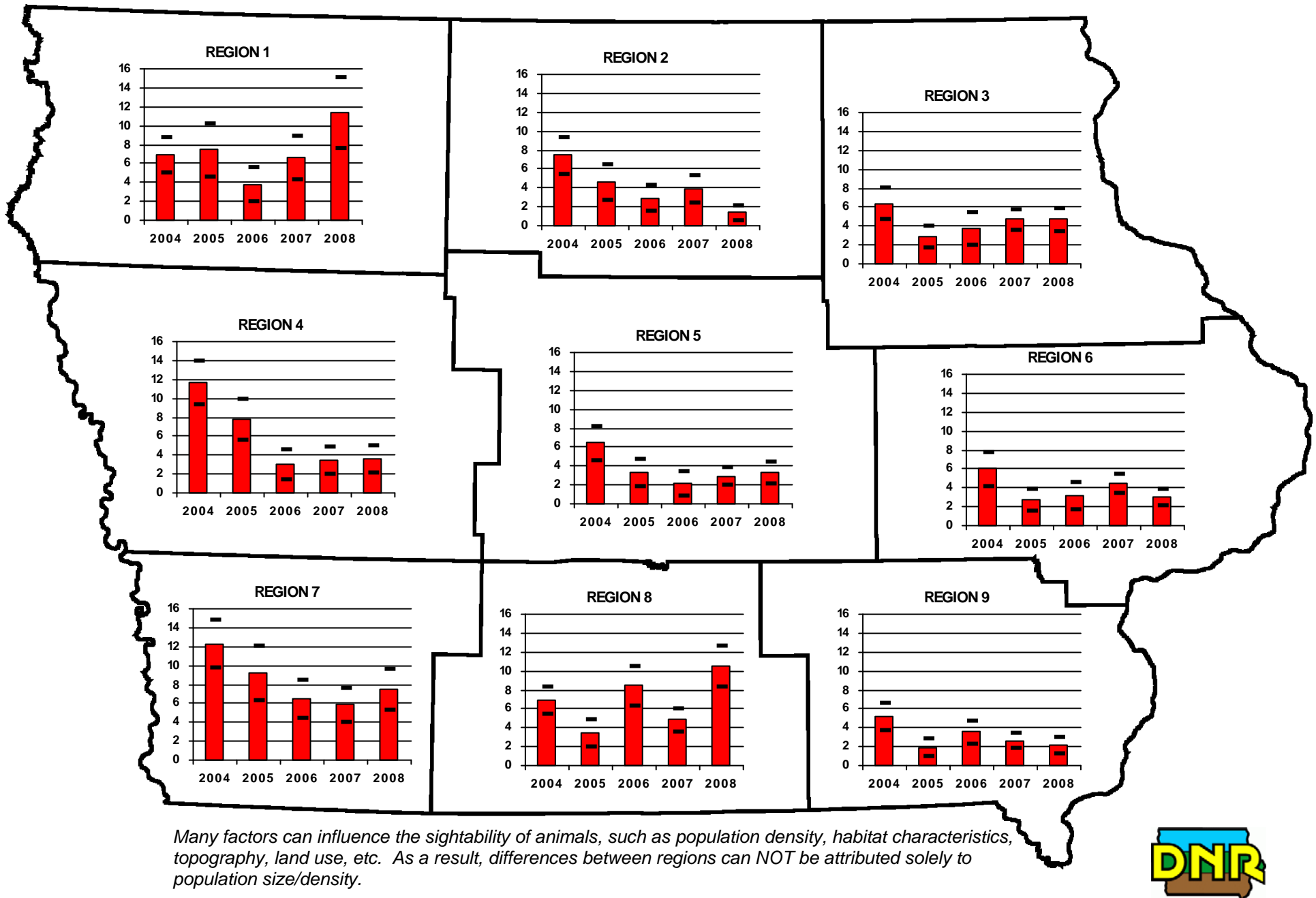
# River Otter Observations Per 1,000 Hours Hunted

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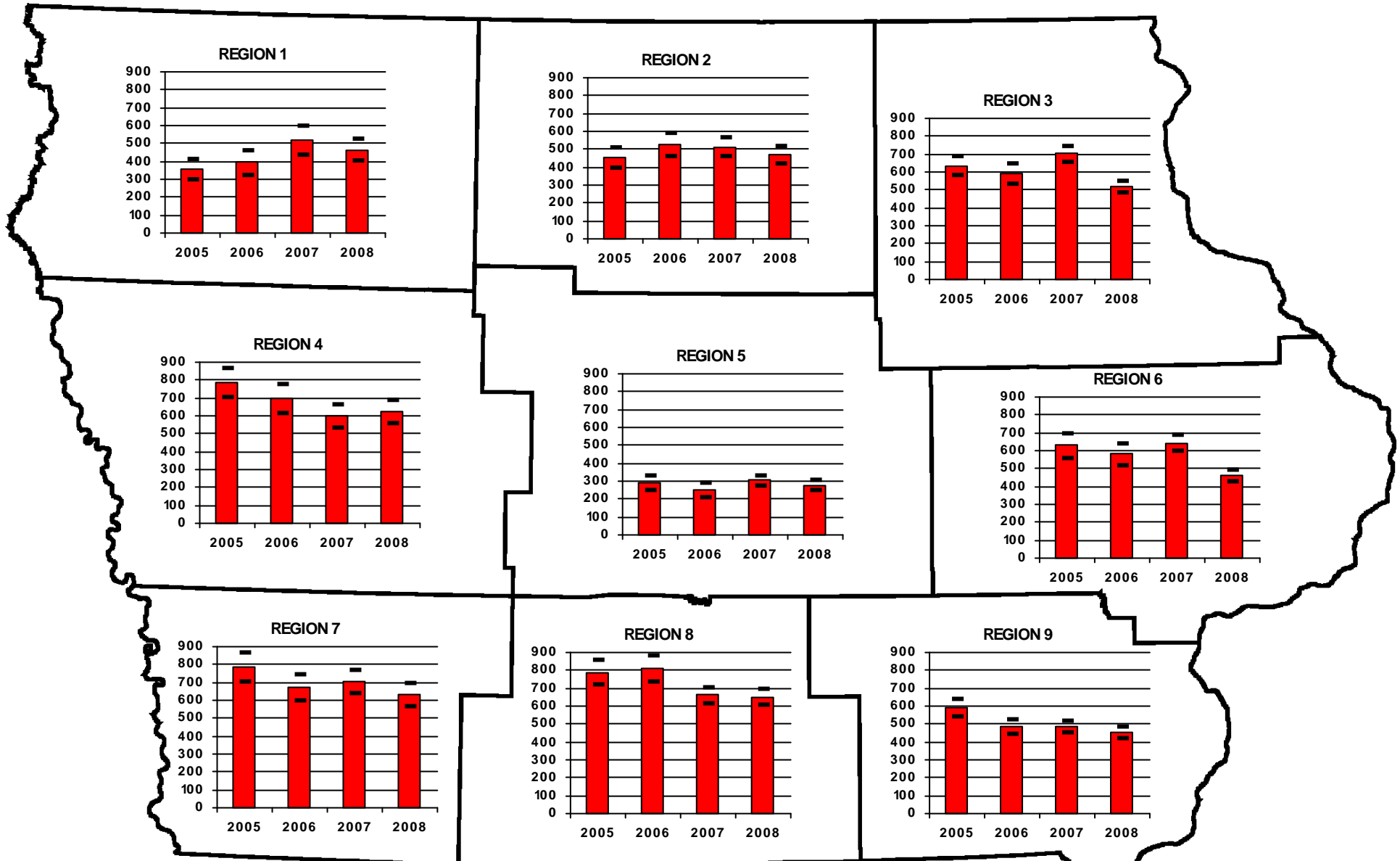
# Striped Skunk Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Wild Turkey Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



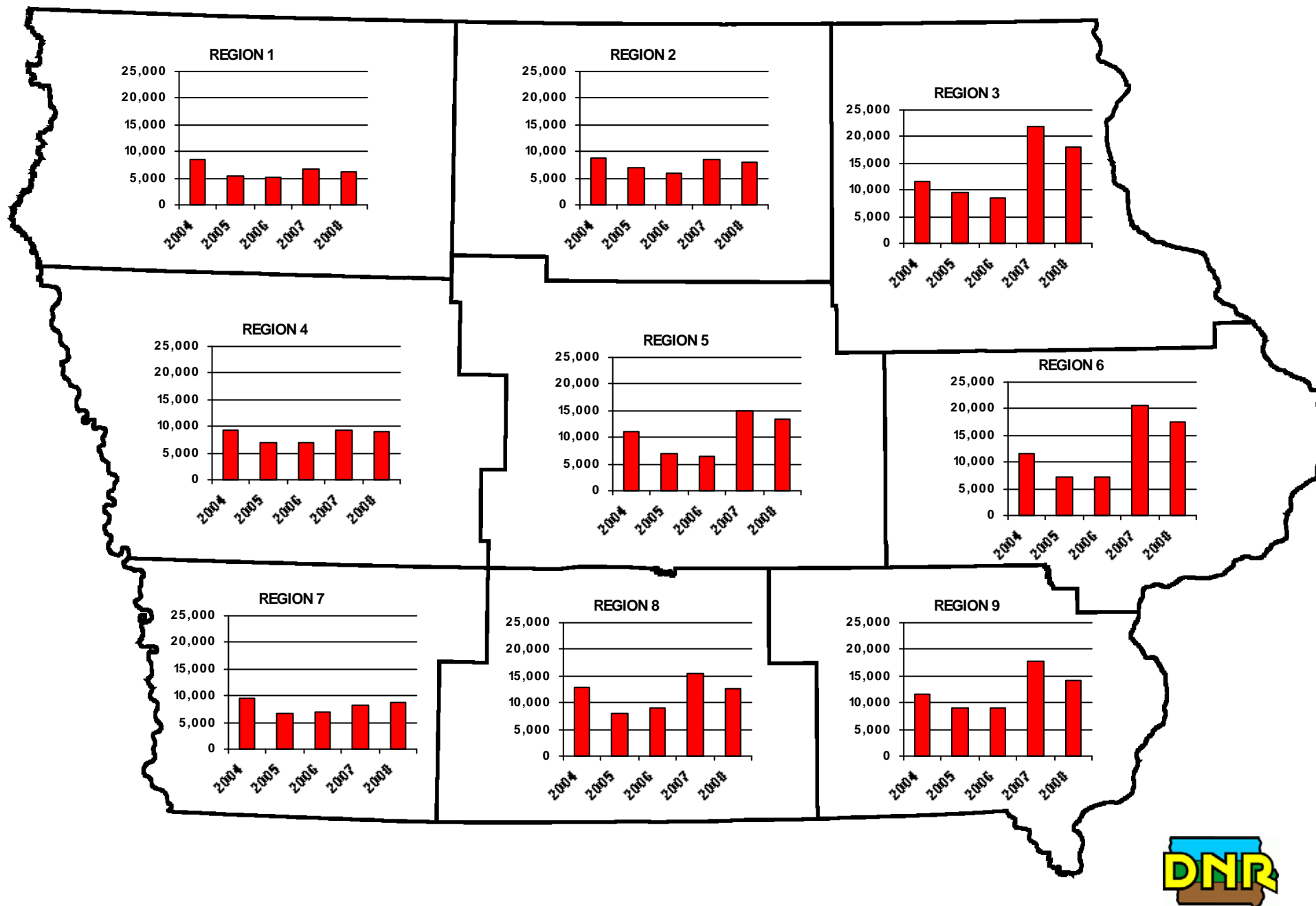
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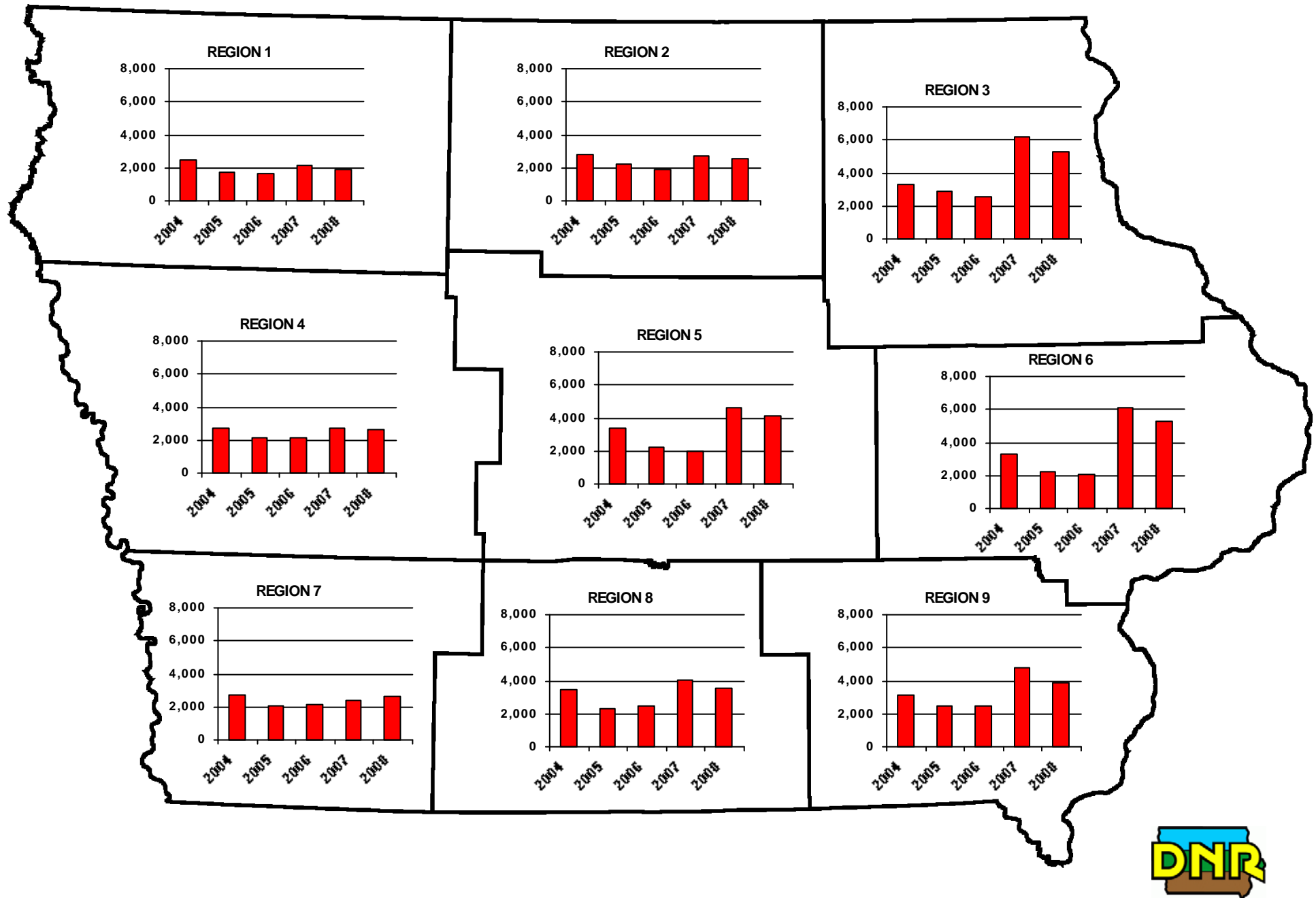
# Hours Hunted by Survey Participants

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Bowhunting Trips by Survey Participants

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Average Hours Hunted/Bowhunting Trip

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

